BURNER DESIGN EVALUATION OBJECTIVES

Due to IPSC's concerns with B&W's proposed burner design upgrade not addressing the heart of the burner deficiencies, IPSC is recommending an outside consultant to assist in the burner design review and providing third party support for air flow and finite element modeling.

The goal is to keep B&W's proposed burner design intact, as much as possible, to mitigate warranty and guarantee issues while attempting to resolve the outstanding burner issues.

OBJECTIVES The objectives of the IGS burner replacement/ upgrade evaluation include the following key issues:

- Extend life of burners and minimize routine maintenance requirements by eliminating the overheating and thermal expansion damage.
- Stop burner line fires by establishing air flow profiles which eliminate recirculation into the coal nozzles (in both in and out of service conditions).
- Balance secondary air flow across the burner fronts to ensure uniform distribution while burners are in-service and eliminate overheating when the burners are not in service.
- Eliminate slagging in coal nozzle, inner and outer air sleeve assemblies which may be contributing to burner line fires and air flow maldistribution.
- Minimize eyebrow formation above the burner which impacts lighter and scanner operation as well as coal combustion (O2 profiles).
- Maintain and/or improve combustion and operating parameters of the burners. These parameters include:
  a. NOx emission levels (maintain at or below 0.44 lbs/MBtu)
  b. O2 levels of 3.2% (design) or less with ranges (maximum to minimum) of less than 1.5% O2
  c. CO levels of 150 ppm or less with ranges (maximum to minimum) of less than 75 ppm
  d. LOI ash levels of less than 1.0% (with 70% thru 200 mesh coal)
  e. secondary air flow balancing of +/- 3% from burner to burner